



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/531,961 | 10/13/2005 | Thorsten Enders | 10191/3917 | 8807 |

26646 7590 10/06/2006

KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

CAVALLARI, DANIEL J

ART UNIT PAPER NUMBER

2836

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--|--------------------------------------|--|
| Office Action Summary | Application No. 10/531,961 | Applicant(s) ENDERS ET AL. | |
| | Examiner Daniel J. Cavallari | Art Unit 2836 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 14 and 16-24 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>4/19/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The examiner acknowledges a submission of the amendment filed on 7/10/2006. The amendments to claims 12, 14, & 18 and cancellation of claim 13 and new claim 24 are accepted.

The previously made objection to the drawings has been withdrawn in view of the replacement drawings received on 7/10/2006. These new drawings are accepted however new objections are presented and discussed below.

The previously made objection to claims 14 & 16 have been withdrawn in view of the amendments.

The IDS dated 4/19/2005 was considered in full and a new and completely initialed IDS has been included with this office action to verify it's consideration.

Response to Arguments

Applicant's arguments with respect to claims 12 & 14-23 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, see pages 7-8, filed 7/10/2006, with respect to the 112 rejection of claim 14 have been fully considered and are persuasive. The previously 112 second paragraph rejection of claim 14 has been withdrawn.

Applicant's arguments filed 7/10/2006 in regards to the 112 second paragraph rejection of claim 12 have been fully considered but they are not persuasive.

The applicant argues that "One skilled in the art would understand that the star structure and the at least one star point refer to a star topology when considering the context –supply lines- and that which the specification discloses" and further states that the specification discloses "... a star network topology having at least one central point that forms a star point..." The examiner disagrees and points out that the specification fails to disclose the use of the term "star network topology". The claim states "...supply lines arranged in a star structure and having at least one star point..." and fail to claim the "star structure" as relating to a network topology and therefore do not limit the claim to such a network configuration but also provide for the supply lines (wherein a supply line is read on by an individual coaxial cable) physical cable structure. Furthermore, the specification fails to disclose a "star network topology" and no figure is provided which illustrates a vehicle star structure topology.

Applicant's arguments filed 7/10/2006 in regards to the 102 rejection of claim 12 have been fully considered but they are not persuasive.

In response to applicant's arguments, the recitation of the transmission of both energy and information has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and

where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following details must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

- Supply lines arranged in a star structure network having at least one star point.
- The central litz wire being connected at both ends to a vehicle body.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

Art Unit: 2836

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to Claim 12

The limitation of the supply line arranged in a "star structure" having one "star point" is unclear. The dictionary definition of the word "star" is "a conventional figure with five or more points that represents a star." Figure 1 and 2 do not appear to the examiner as representative of a star. Further more, it is unclear what constitutes a "star point". The claim will be examined as best understood to mean a supply line in an annular arrangement with at least one central portion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12, 14, & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erculiani (US 3,973,227), and Pitts, Jr. (4,077,022).

Erculiani teaches an annular arrangement of a supply line (120) having at least one central conductor (130) wherein a portion of the supply line is arranged in a coaxial arrangement of a plurality of outer litz wires (120) disposed about a central litz wire (130) (See Figure 6 & Column 5, Lines 10-22).

Erculiani fails to teach wherein capacitors are used to short circuit the outer litz wires.

Pitts teaches a coaxial cable arrangement in which outer coaxial conductors are short circuited with each other by capacitors (See Figure 3 & Column 3, Lines 15-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate capacitors short circuited among outer wires, as taught by Pitts, into the star structured conductor taught by Erculiani. The motivation would have been to improve high frequency coupling and ground (See Pitts, Column 3, Lines 27-28).

Art Unit: 2836

In regard to Claim 14

- The examiner notes that Pitts teaches the use of capacitors to short circuit conductors in a coaxial cable arrangement. Such a configuration, regardless of its placement on a wire, would thereby short circuit the outer wires "at both ends" as both the input and output of the wire would be considered short circuited.

In regard to Claim 24

- The supply line structure arranged to transmit high frequency signals (See Column 6, Lines 5-14).

Claims 12 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malville (US 5,745,027), Erculiani (US 3,973,227), and Pitts, Jr. (4,077,022).

Malville teaches:

- A supply line structure to supply energy and transmit information between components of a vehicle (See Column 1, Lines 5-15).
- Supply lines arranged in a star configuration (See Figure 1) having at least one star point, read on by the battery (4) wherein at least a portion of the supply line (includes a coaxial arrangement of wires (See Column 3, Lines 42-47).

Malville teaches the use of a coaxial cable but fails to explicitly teach the specifics of the coaxial cable used or capacitors used to short circuit the wires of the coaxial cable.

Erculiani teaches an annular arrangement of a supply line (120) having at least one central conductor (130) wherein a portion of the supply line is arranged in a coaxial arrangement of a plurality of outer litz wires (120) disposed about a central litz wire (130) (See Figure 6 & Column 5, Lines 10-22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the coaxial litz wire taught by Erculiani for the coaxial cable in which Malville is silent. The motivation would have been to provide a coaxial cable which reduces distortion of data transmission (See Column 1, lines 26-35).

Pitts teaches a coaxial cable arrangement in which outer coaxial conductors are short circuited with each other by capacitors (See Figure 3 & Column 3, Lines 15-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate capacitors short circuited among outer coaxial wires as taught by Erculiani. The motivation would have been to improved data transmission (See Pitts, Column 3, Lines 27-28).

In regard to Claim 14

- The examiner notes that Pitts teaches the use of capacitors to short circuit conductors in a coaxial cable arrangement. Such a configuration, regardless of its placement on a wire, would thereby short circuit the outer wires "at both ends" as both the input and output of the wire would be considered short circuited.

Claims 16, 17, & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malville, Erculiani, Pitts, & Frungel et al. (US 3,300,682).

In regard to Claims 16 & 17

Incorporating all arguments above of the supply line structure taught by Malville, Malville fails to teach the use of a ferrite annular core. Frungel et al. teaches a supply line structure incorporating conductors passed through and wrapped around a ferrite annular core on a generator side (6) (See Figures 1b and 2a & Column 2, Line 66 to Column 3, Line 12 & Column 5, Lines 57-69).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a ferrite annular core in which to pass the electrical supply line through or wrap around as taught by Frungel et al. The motivation would have been to vary the inductance of the line to a desired level (See Column 2, Line 66 to Column 3, Line 12).

In regard to Claim 18

The supply line further comprising a generator, read on by the battery (4) (See Figure 1) and the annular core being on a side of the generator [The examiner notes that the limitation of "...on a side of the generator..." is nominal seeing as "the side" is not provided with particular limitations. Seeing as the battery is connected to the entire device taught by Malville, any placement of the ferrite in the system will read on "a side" of the generator].

Claims 19 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erculiani and Eichmann et al. (US 6,495,763).

Incorporating all arguments above of the supply line structure taught by Erculiani, Erculiani teaches a multiplicity of outer litz wires around a central litz wire (See Figure 6) but fails to explicitly teach the number of litz wires in the outer layer.

Eichmann et al teaches a wire arrangement in which 7 outer wires are located around a central wire (See Figure 3 & Column 3, Line 29-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate seven outer wires as taught by Eichmann et al. The motivation would have been to provide a sufficient number of wires needed to adequately operate the system by carrying the required current.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erculiani and Ruthrof et al. (US 4,642,417).

Incorporating all arguments above of the supply line structure taught by Erculiani, Erculiani fails to explicitly teach the wave impedance of the supply line.

Ruthrof et al. teaches a conductor system which has a wave impedance of 50 ohms.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ruthrof et al. with the system of

Art Unit: 2836

Erculiani creating a power line structure with a wave impedance of 50 ohms. The motivation would have been to create a system with a suitable wave impedance.

Claims 22 & 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erculiani and Yoshida et al. (US 2002/0030249 A1).

Incorporating all arguments above of the supply line structure taught by Erculiani, Erculiani fails to explicitly teach the coaxial arrangement transmission characteristics.

Yoshida et al. teaches a device with a transmission characteristic of -1.5 dB with a frequency of 250MHz (See Figure 10 & Paragraph 102).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the transmission characteristics taught by Yoshida et al. into the the supply line structure of Erculiani. The motivation would have been to provide a system with suitable transmission characteristics.

Allowable Subject Matter

Claims 15, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and after overcoming the above 112 issues.

In regard to Claim 15

Malville teaches a vehicle star configurations in which a wire (3) is connected to the vehicle body on both sides (via connection 5) (See Figure 1 & Column 3, Lines 1-47). Yoshida et al. teaches a coaxial cable in which the center wire is connected to power and the outer conductive material is connected to vehicle ground (See Figure 6). Prior art of record fails to specifically teach wherein the central litz wire of the coaxial arrangement is connected to the vehicle body on both sides.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Enders et al. (US 2003/0052771)

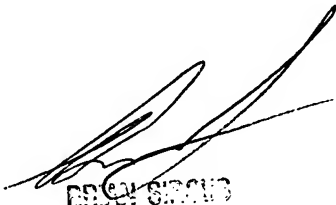
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

September 20, 2006


BRIAN SIRCUS
SUPERVISORY PAIR
TECHNOLOGY CENTER